

Date: Fri, 17 Dec 93 04:30:28 PST  
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>  
Errors-To: Ham-Space-Errors@UCSD.Edu  
Reply-To: Ham-Space@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Space Digest V93 #113  
To: Ham-Space

Ham-Space Digest Fri, 17 Dec 93 Volume 93 : Issue 113

## Today's Topics:

\* SpaceNews 13-Dec-93 \*  
Dealing with Doppler Shift?  
Shuttle radio transmissions  
e Orbital Element Set: Space Shuttle

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>  
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available (by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text herein consists of personal comments and does not represent the official policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 10 Dec 1993 10:32:16 MST  
From: destroyer!nntp.cs.ubc.ca!alberta!adec23!ersys!ve6mgs!usenet@uunet.uu.net  
Subject: \* SpaceNews 13-Dec-93 \*  
To: ham-space@ucsd.edu

SB NEWS @ AMSAT \$SPC1213  
\* SpaceNews 13-Dec-93 \*

BID: \$SPC1213

=====  
SpaceNews  
=====

MONDAY DECEMBER 13, 1993

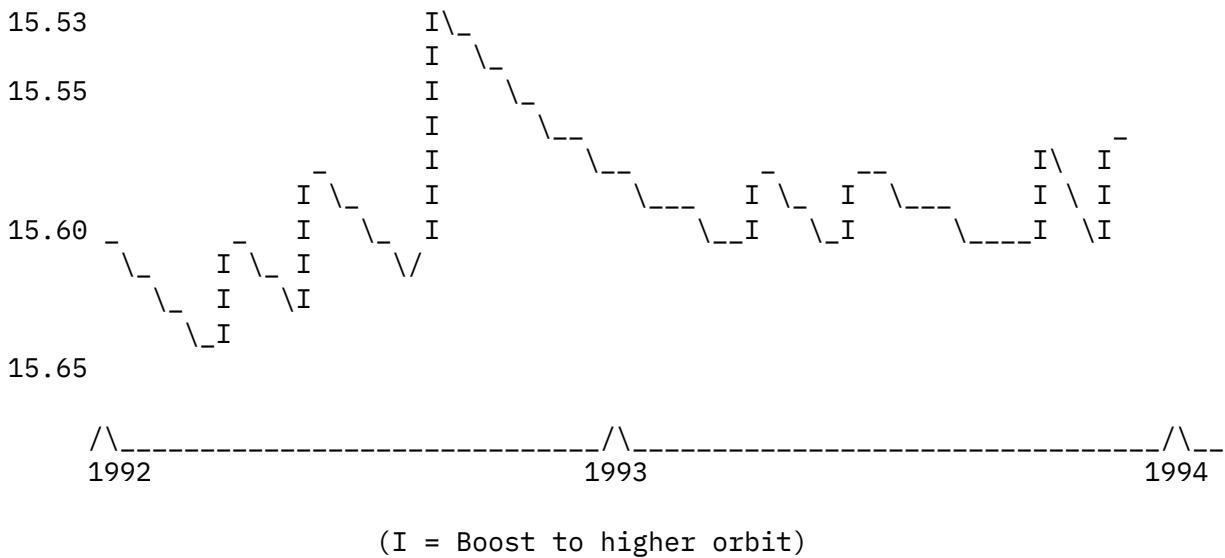
SpaceNews originates at KD2BD in Wall Township, New Jersey, USA. It is published every week and is made available for unlimited distribution.

\* MIR NEWS \*

=====

Jean-Claude, FB1RCI, of Marseille, France has provided a graphical view depicting the altitude of the Russian space station Mir over the past year based on the mean motion of the spacecraft:

Rev per day



(I = Boost to higher orbit)

\* AMSAT-OSCAR-13 NEWS \*

=====

A0-13 is now experiencing the longest eclipses it will ever experience, indeed the longest that ANY amateur satellite has received! The period affected is Dec 08 - 24. Most eclipses exceed 2 hours, with the longest 136 minutes on Dec 15th.

In addition, the Sun angle is -30 degrees and worsening, giving only 86% illumination now, less later. The mode-B transponder is only just sustainable, and is on for the minimum sensible time, MA 180-250 with a break from 220-230 for mode-S exclusive.

There is no guarantee that even this is enough safety margin, and further curtailments may be necessary, including a slight reorientation to collect more sunlight.

The Whole Orbit Data collection in the K-block is presently monitoring

battery voltage. The safety threshold is 12.6 volts, when the on-board computer will closedown the transponder if necessary. Bytes 64-191 are voltage at 8 MA intervals, and convert as  $V = (N-10)*0.0668$  volts.

Please be sensitive about your uplink power. Remember, optimum conditions occur at only 30,000 km range now. Compared with apogee that's a 6 db round trip improvement, so you can cut your power by 1/4 and be no worse off.

```
L QST *** A0-13 TRANSPONDER SCHEDULE *** 1993 Dec 08-Jan 31
Mode-B : MA 250 to MA 256 ! OFF Dec 08 - 24 | Eclipses, max
Mode-B : MA 0 to MA 180 ! OFF | duration 136
Mode-B : MA 180 to MA 220 ! | minutes.
Mode-S : MA 220 to MA 230 !<- S transponder; B trsp. is OFF
Mode-BS : MA 230 to MA 250 ! Alon/Alat 240/-5
Omnis : MA 250 to MA 150 ! Move to attitude 180/0, Jan 31
        Long eclipses and poor Sun angle now need maximum OFF time.
```

[Info via James, G3RUH @ GB7DDX.#22.GBR.EU]

\* ITAMSAT-OSCAR-16 NEWS \*

=====

ITAMSAT-OSCAR-26 suffered a software crash at approximately 11:30 UTC on 08-Dec-93 during a pass over Europe. The crash left the transmitter on with no MBL or telemetry. The satellite was successfully recovered on 09-Dec-93 through a joint effort by Alberto Zagni I2KBD and the Eyesat ground station in the United States. I0-26 was reset to its safe mode (MBL with transmitter off) at about 05:40 UTC.

Alberto, I2KBD, on the first evening pass over Europe was able to switch the transmitter on again, and began some memory dumps in order to gain more information about the software crash. The TX was switched on at 19:00 UTC, and is now sending MBL telemetry.

The ITAMSAT Command Team will probably delay the recommissioning of the BBS on I0-26 to allow a better understanding of the orbital parameters, in order to be able to raise the power when the BBS will be turned on again. Look for any bulletin in the downlink for upcoming WODs.

The ITAMSAT Command Team would like to thank the Eyesat ground station, Jeff Ward G0/K8KA and Harold Price NK6K for their help.

ITAMSAT Command Team can be reached via Internet as [i2kbd@amsat.org](mailto:i2kbd@amsat.org) or [ik2ovv@amsat.org](mailto:ik2ovv@amsat.org), and on Compuserve HAMNET.

[Info via Luca Bertagnolio, IK20VV, of the ITAMSAT Command Team]

\* THANKS! \*

=====

Thanks to all those who sent messages of appreciation regarding SpaceNews,  
especially:

CT1AJY      KD1NV      IW2EPE      N2IRO      NW2L      G6CNF

\* FEEDBACK/INPUT WELCOMED \*

=====

Mail to SpaceNews should be directed to the editor (John, KD2BD) via any  
of the following paths:

FAX : 1-908-747-7107  
PACKET : KD2BD @ N2KZH.NJ.USA.NA  
INTERNET : kd2bd@ka2qhd.ocpt.ccur.com -or- kd2bd@amsat.org

MAIL : John A. Magliacane, KD2BD  
Department of Engineering and Technology  
Advanced Technology Center  
Brookdale Community College  
Lincroft, New Jersey 07738  
U.S.A.

<<= SpaceNews: The first amateur newsletter read in space! -=>

/EX

--  
John A. Magliacane, KD2BD \* /\ \ \* Voice : 1-908-224-2948  
Advanced Technology Center | / \ / \ | Packet : KD2BD @ N2KZH.NJ.USA.NA  
Brookdale Community College | \ / \ / \ | Internet: kd2bd@ka2qhd.ocpt.ccur.com  
Lincroft, NJ 07738 \* \ / \ \* Morse : - . - . . . . . . . . . .

-----  
Date: Mon, 13 Dec 1993 19:45:55 GMT  
From: sgiblab!swrinde!cs.utexas.edu!howland.reston.ans.net!EU.net!news.inesc.pt!  
animal.inescn.pt!ciup2.ncc.up.pt!brigite.ci.ua.pt!etjfonte@ames.arpa  
Subject: Dealing with Doppler Shift?  
To: ham-space@ucsd.edu

You can Work it also on RS12/13. In this one the UPLINK is on 21 and  
DOWNLINK on 29Mhz....The doppler is a funny thing.

In many AMSAT meetings you can hear them saying :

X-Newsreader: TIN [version 1.1 PL8]

"Is like being stopped near a railroad and train passing by  
making noise.If you give attention to the noise is not always the  
same.It's a variable frequency but the difference is very small..  
"

Sorry for English .....

If you work Birds you have to be with RIT on to get the other  
station fine....

=====

= CT1ENQ =

=====

Best 73's , good DXing !!...

CT1ENQ - Jose' Miguel MBF Aveiro Uni.PORTUGAL  
P.O.Box 108  
4801 Guimaraes  
Portugal    Electronics & Telecommunications Dept.

prvalko (prvalko@vela.acs.oakland.edu) wrote:  
: The way I understand it, one uses the satellites such that the LOWER  
: frequency never gets adjusted. i.e. on RS-10/11 you tune the 145  
: transmitter so that the 29 MHz receive frequency stays put.

: Am I right or wrong on this?

: 73 paul wb8zjl (newbie)

---

Date: Thu, 9 Dec 1993 09:43:23 GMT  
From: news.acns.nwu.edu!math.ohio-state.edu!magnus.acs.ohio-state.edu!  
usenet.ins.cwru.edu!agate!doc.ic.ac.uk!uknet!pipex!bbc!ant!boyer@network.ucsd.edu  
Subject: Shuttle radio transmissions  
To: ham-space@ucsd.edu

I would like to listen to the shuttle. I realise that this will only be  
possible if it transmits on HF. has anyone got any frequncies?

Thanks for your attention.

John.Boyer@rd.eng.bbc.co.uk.

---

Date: Mon, 13 Dec 1993 23:43:52 GMT  
From: saimiri.primate.wisc.edu!sdd.hp.com!nigel.msen.com!usenet.ins.cwru.edu!  
howland.reston.ans.net!paladin.american.edu!afterlife!blackbird.afit.af.mil!  
tkelso@ames.arpa  
Subject: Two-Line Orbital Element Set: Space Shuttle  
To: ham-space@ucsd.edu

The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) 427-0674, and are updated daily (when possible). Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current elements for the current shuttle mission are provided below. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity.

Element sets (also updated daily), shuttle elements, and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

HST  
1 20580U 90037B 93345.46188666 .00005419 00000-0 52909-3 0 3860  
2 20580 28.4709 1.6300 0005714 286.6621 72.1424 14.90379666 1344  
STS 61  
1 22917U 93075A 93346.91666667 .00000086 00000-0 95796-6 0 332  
2 22917 28.4721 352.2809 0006031 290.1471 332.0933 14.90687234 1570  
HST Array  
1 22920U 90037C 93345.32182143 .00012724 00000-0 11609-2 0 101  
2 22920 28.4713 2.4416 0005168 87.7195 272.3549 14.93670423 1334  
--  
Dr TS Kelso Assistant Professor of Space Operations  
tkelso@afit.af.mil Air Force Institute of Technology

-----  
End of Ham-Space Digest V93 #113

\*\*\*\*\*  
\*\*\*\*\*